2. A method for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

identifying a plurality of geometrically arranged coordinates;

computing a distance value based on the geometrically arranged coordinates;

calculating a LOD value using the distance value for use during computer graphics processing; and

estimating a derivative value based on the geometrically arranged coordinates, wherein the distance value is computed based on the derivative value.

3. The method as recited in claim 2, wherein the geometrically arranged coordinates include (z_0, z_1, z_2, z_3) which are representative of a quadrilateral with z_0 being an upper left corner of the quadrilateral, z_1 being an upper right corner of the quadrilateral, z_2 being a lower left corner of the quadrilateral, z_3 being a lower right corner of the quadrilateral.

4. The method as recited in claim 3, wherein the quadrilateral is a 2x2 pixel quadrilateral.

6. The method as recited in claim 3, wherein the derivative value is a derivative with respect to an x-axis.

7. The method as recited in claim 6, wherein the derivative value is calculated using the expression $((z_1 - z_0) + (z_3 - z_2))/2$.

8. The method as recited in claim 3, wherein the derivative value is a derivative with respect to an y-axis.

9. The method as recited in claim 8, wherein derivative value is calculated using the expression $((z_2 - z_0) + (z_3 - z_1))/2$.

10. A method for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

identifying a plurality of texture coordinates;

computing a distance value based on the texture coordinates; and

calculating a LOD value using the distance value for use during computer graphics processing.

13. The method as recited in claim 2, wherein the LOD value is calculated for dependent textures.

14. A method for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

identifying a plurality of geometrically arranged coordinates;

computing a distance value based on the geometrically arranged coordinates; and

calculating a LOD value using the distance value for use during computer graphics processing;

wherein the LOD value is calculated for cube environment mapping.

15. A method for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

identifying a plurality of geometrically arranged coordinates;

computing a distance value based on the geometrically arranged coordinates;

calculating a LOD value using the distance value for use during computer graphics processing;

determining if the geometrically arranged coordinates reside on separate sides of a cube map; and

performing a coordinate space transform if the geometrically arranged coordinates reside on separate sides of the cube map.

16. A method for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

identifying a plurality of geometrically arranged coordinates;

computing a distance value based on the geometrically arranged coordinates;

calculating a LOD value using the distance value for use during computer graphics processing; and

determining if a sign of a q-value of a pixel associated with each coordinate is the same.

17. The method as recited in claim 16, and further comprising setting the LOD value to infinity if it is determined that the sign of the q-value of each pixel is not the same.

18. A method for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

identifying a plurality of geometrically arranged coordinates;

computing a distance value based on the geometrically arranged coordinates; and

calculating a LOD value using the distance value for use during computer graphics processing;

wherein the geometrically arranged coordinates include (z_0, z_1, z_2, z_3) which are representative of a quadrilateral with z_0 being an upper left corner of the quadrilateral, z_1 being an upper right corner of the quadrilateral, z_2 being a lower left corner of the quadrilateral, z_3 being a lower right corner of the quadrilateral.

19. The method as recited in claim 18, and further comprising transforming the geometrically arranged coordinates to a different coordinate system (l,m,n), wherein the distance value is estimated using an expression selected from the group of $(l_1 - l_0)^2 + (m_1 - m_0)^2 + (n_1 - n_0)^2$, $(l_2 - l_0)^2 + (m_2 - m_0)^2 + (n_2 - n_0)^2$, $(l_3 - l_1)^2 + (m_3 - m_1)^2 + (n_3 - n_1)^2$, and $(l_3 - l_2)^2 + (m_3 - m_2)^2 + (n_3 - n_2)^2$.

21. A computer program embodied on a computer readable medium for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

a code segment for identifying a plurality of geometrically arranged coordinates;

a code segment for computing a distance value based on the geometrically arranged coordinates;

a code segment for calculating a LOD value using the distance value for use during computer graphics processing; and

a code segment for estimating a derivative value based on the geometrically arranged coordinates, wherein the distance value is computed based on the derivative value.

22. The computer program as recited in claim 21, wherein the geometrically arranged coordinates include (z_0, z_1, z_2, z_3) which are representative of a quadrilateral with z_0 being an upper left corner of the quadrilateral, z_1 being an upper right corner of the quadrilateral, z_2 being a lower left corner of the quadrilateral, z_3 being a lower right corner of the quadrilateral.

23. The computer program as recited in claim 22, wherein the quadrilateral is a 2x2 pixel quadrilateral.

24. The computer program as recited in claim 22, wherein the derivative value is a derivative with respect to an x-axis.

25. The computer program as recited in claim 24, wherein the derivative value is calculated using the expression $((z_1 - z_0) + (z_3 - z_2))/2$.

26. The computer program as recited in claim 22, wherein the derivative value is a derivative with respect to an y-axis.

27. The computer program as recited in claim 26, wherein derivative value is calculated using the expression $((z_2 - z_0) + (z_3 - z_1))/2$.

28. A computer program embodied on a computer readable medium for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

a code segment for identifying a plurality of texture coordinates;

a code segment for computing a distance value based on the texture coordinates; and

a code segment for calculating a LOD value using the distance value for use during computer graphics processing.

31. A computer program embodied on a computer readable medium for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

a code segment for identifying a plurality of geometrically arranged coordinates;

a code segment for computing a distance value based on the geometrically arranged coordinates; and

a code segment for calculating a LOD value using the distance value for use during computer graphics processing;

wherein the LOD value is calculated for dependent textures.

32. A computer program embodied on a computer readable medium for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

a code segment for identifying a plurality of geometrically arranged coordinates;

a code segment for computing a distance value based on the geometrically arranged coordinates; and

a code segment for calculating a LOD value using the distance value for use during computer graphics processing;

wherein the LOD value is calculated for cube environment mapping.

33. A computer program embodied on a computer readable medium for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

a code segment for identifying a plurality of geometrically arranged coordinates;

a code segment for computing a distance value based on the geometrically arranged coordinates;

a code segment for calculating a LOD value using the distance value for use during computer graphics processing;

a code segment for determining if the geometrically arranged coordinates reside on separate sides of a cube map; and

a code segment for performing a coordinate space transform if the geometrically arranged coordinates reside on separate sides of the cube map.

34. A computer program embodied on a computer readable medium for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

a code segment for identifying a plurality of geometrically arranged coordinates;

a code segment for computing a distance value based on the geometrically arranged coordinates;

a code segment for calculating a LOD value using the distance value for use during computer graphics processing; and

a code segment for determining if a sign of a q-value of a pixel associated with each coordinate is the same.

35. The computer program as recited in claim 34, and further comprising a code segment for setting the LOD value to infinity if it is determined that the sign of the q-value of each pixel is not the same.

36. A computer program embodied on a computer readable medium for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

a code segment for identifying a plurality of geometrically arranged coordinates;

a code segment for computing a distance value based on the geometrically arranged coordinates;

a code segment for calculating a LOD value using the distance value for use during computer graphics processing;

wherein the geometrically arranged coordinates include (z_0, z_1, z_2, z_3) which are representative of a quadrilateral with z_0 being an upper left corner of the quadrilateral, z_1 being an upper right corner of the quadrilateral, z_2 being a lower left corner of the quadrilateral, z_3 being a lower right corner of the quadrilateral.

37. The computer program as recited in claim 36, and further comprising a code segment for transforming the geometrically arranged coordinates to a different coordinate system (l,m,n), wherein the distance value is estimated using an expression selected from the group of $(l_1 - l_0)^2 + (m_1 - m_0)^2 + (n_1 - n_0)^2$, $(l_2 - l_0)^2 + (m_2 - m_0)^2 + (n_2 - n_0)^2$, $(l_3 - l_1)^2 + (m_3 - m_1)^2 + (n_3 - n_1)^2$, and $(l_3 - l_2)^2 + (m_3 - m_2)^2 + (n_3 - n_2)^2$.

38. A system for calculating a level of detail (LOD) value for use during computer graphics processing, comprising:

logic for identifying a plurality of texture coordinates;

logic for computing a distance value based on the texture coordinates; and

logic for calculating a LOD value using the distance value for use during computer graphics processing.